Is there concordance between patient and physicians for aspects of treatment that matter most? Evidence from a review of discrete choice experiments

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BACKGROUND

- Health care providers' (HCPs) assumptions about their patients' preferences is known as 'preference diagnosis'
- Evidence suggests HCPs erroneously deem themselves accurate at preference diagnosis; discordant patient and HCP preferences leads to 'preference misdiagnosis', with implications for health care overuse
- Still unknown is how, and how often, HCP and patient preferences differ; studies show a mix of differing ranks and/or preference strengths between patients and HCPs
- A recent review found aggregate preferences differ between groups; however, this is complicated by including mixed preference elicitation methods, and possible heterogeneity
- Discrete choice experiments (DCEs) help understand preferences by allowing analysis and valuing of different treatment components, but unclear how they can be used to assess concordance overall

OBJECTIVES

1. To quantify the extent to which DCEs comparing patient and provider preferences demonstrate concordance;
2. To review the methodology of DCEs to evaluate similarities, differences and strengths and limitations of their designs.

METHODS & ANALYSIS

1. **Systematic Search:**
   - Search terms describing 'patients', 'health care providers', 'preferences' and 'DCE' combined together and entered into Medline, EMBASE, Econlit, PsycINFO, Web of Science
   - Inclusion criteria: English, published 1995-July 2015, health care topic, DCE, comparing patients and HCPs using same DCE
2. **Data Extraction:**
   - Characteristics identified by a checklist conceptualizing critical appraisal were isolated from the DCEs & appraised
   - Attributes used in the DCEs were classified in line with the framework of structures, processes and outcomes as outlined by Donabedian$_{1966,1988}$ and used previously$_{\text{Muhlbacher\&Juhnke 2013}}$
3. **Data Synthesis:**
   - Relative importance of each attribute was crudely estimated to obtain a rank, and scored by dividing the differences in ranks by number of attributes
   - Weighted average of this score taken by attribute classification

RESULTS

Systematic Review: 38 papers identified from 15 countries (majority U.K., Netherlands and Canada) in 26 different indications/diseases. Comparisons of groups are shown in table 1.

- Piloting/Attributes: 95% of papers reported the source of attributes used and 63% reported piloting; only 5 piloted and generated attributes in all populations in their study
- Framing: papers nearly equally split between different instruction and same instructions
- Measuring Concordance: No consistent approach, but generally studies used qualitative comparison, statistical tests of difference of coefficients, or regression diagnostics (Table 2)
- Heterogeneity: n=34 studies accounted for this using sub-groups or incorporating respondent demographics into the model; one study used latent class analysis

Table 1: Matrix of Preferences Sought

		Non-health care	
Health care Professionals	Patients	General public	Parents or caregivers
GP	14 (37%)	5 (13%)	4 (11%)
Dentist	1 (3%)	0 (0%)	0 (0%)
Surgeon	2 (5%)	1 (3%)	2 (5%)
Other physician specialty	12 (32%)	4 (11%)	4 (11%)
Nurse/ nurse specialist	6 (16%)	1 (3%)	3 (8%)
Pharmacist	3 (8%)	0 (0%)	3 (8%)
Other Professions	9 (24%)	2 (5 %)	1 (3%)
Health care trainee	1 (3%)	1 (3%)	1 (3%)

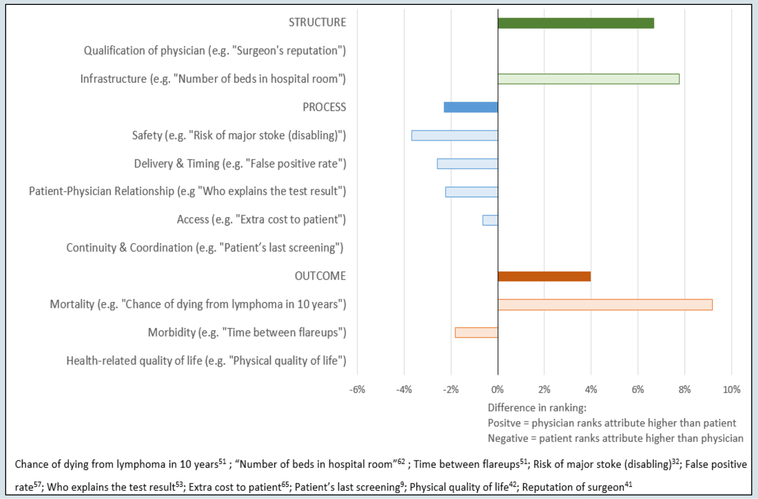
Table 2: Summary of studies' concordance analysis and resulting conclusions

		Author conclusion		
Method used	N(%)	Evidence of concordance N (%)	Evidence of disagreement N (%)	Mixed (N%)
Qualitative comparison				
Strength of coefficients	19 (50%)	2 (11%)	3 (16%)	14 (74%)
MRS	6 (16%)	-	3 (50%)	3 (50%)
Relative importance	2 (5%)	-	-	2 (100%)
Weighting	1 (3%)	-	-	1 (100%)
Difference	2 (5%)	-	1 (50%)	1 (50%)
Statistical tests				
Similarity	2 (5%)	-	-	2 (100%)
Unpaired differences	1 (3%)	-	-	1 (100%)
Pooled regression	2 (5%)	-	2 (100%)	-
Regression diagnostics				
Wald test/interactions	5 (13%)	-	2 (40%)	3 (60%)
Chow	1 (3%)	1 (100%)	-	-
Swait & Louviere test	3 (8%)	1 (33%)	1 (33%)	1 (33%)

Data Synthesis: Data from 27 papers included in synthesis

- 230 attributes included in total: 63% classified as process, 29% as outcome, 8% as structure
- Synthesis showed concordance/discordance varied by type of attribute with patients valuing process attributes more than HCPs while HCPs believed structure and process attributes to be more important (Figure 1)

Figure 1: Data synthesis of concordance by attribute type



DISCUSSION

- A large body of work was found in this area; most studies reported mixed conclusions on concordance of preferences but there is more evidence of discordance than concordance
- Concordance or discordance of patient and health care professional preferences varies by the type of attribute, and the individuals involved
- Even within DCE methodology, the significant variation in approaches limits exploration of the reasons for differing preferences

LIMITATIONS

- Limiting to DCE methodology narrows the overall view of the literature on this topic
- Synthesizing coefficients required assumptions that could limit interpretation
- Terms used in search strategy might not have incorporated papers that compare samples using DCE, but which report each sample in separate publications

CONCLUSIONS

- Discordant patient and HCP preferences on the relative importance of different attributes in health care interventions is common
- Concordance/discordance varies according to attribute type, indicating that concordance should not be considered a binary outcome, but should consider all aspects jointly
- DCEs are an excellent opportunity to consider concordance; future studies should aim for more consistent approaches including framing and consideration of sample heterogeneity